WHAT IS CLAIMED IS:

1. A method for animating an object, comprising:

(a) preprocessing the object to be animated including forming proxy surfaces for parts of the object; and

(b) rendering the proxy surfaces including:

(i) determining a transformation of each part with respect to the object; and

(ii) rendering the proxy surfaces of each part at a new viewing direction based on the determined part transformation, whereby, steps (b)(i) and (b)(ii) can be repeated to animate the object at successive new viewing directions.

2. The method of claim 1, wherein said pre-processing step (a) comprises:

dividing said object to be animated into at least two parts that can move independently with respect to said object without changing shape;

forming a proxy surface for each of said parts corresponding to an initial viewing direction; and

obtaining a set of view textures for each of said proxy surfaces based on the initial viewing direction.

3. The method of claim 2, wherein said rendering step (b) further includes:

receiving a selected viewing direction; and

determining an object transformation of the object representing a transformation of the object between the initial viewing direction and the received selected viewing direction and expressing the object transformation as a first matrix (M1).

4. The method of claim 3, wherein for each part:

said rendering step (b)(i) comprises determining the transformation of each part with respect to the object at the received viewing direction and expressing the part transformation as a second matrix (M2), and

said rendering step (b)(ii) further includes calculating a new viewing direction that is a function of the received viewing direction, the first matrix (M1), and the second matrix (M2).

5. The method of claim 1, wherein said rendering step (b) further includes determining the new viewing direction as a function of an object transformation, the determined part transformation, and an initial selected viewing direction.

6. A method for animating an object, comprising:

(a) preprocessing the object to be animated including forming proxy surfaces for parts of the object and at least one joint of the object; and

(b) rendering the proxy surfaces for each part and joint including:

(i) determining a transformation of each part with respect to the object; and

(ii) rendering the proxy surfaces of each part at a viewing direction based on the determined part transformation,

(iii) determining a transformation of each primitive of a joint with respect to the object; and

(iv) rendering each joint primitive at a viewing direction based on the determined joint primitive transformation, whereby, steps (b)(i)-(b)(iv) can be repeated to animate the object at different viewing directions.

7. The method of claim 6, wherein said pre-processing step (a) comprises:

dividing an object to be animated into at least two parts that can move independently with respect to said object;

defining a joint that connects at least two parts of said object, said joint having a plurality of primitives and said joint being capable of changing shape when a part connected to said joint is displaced;

forming a proxy surface for each part and for each joint; and

obtaining a set of view textures for each proxy surface.

8. The method of claim 7, wherein said rendering step (b) further includes receiving a viewing direction; and

determining a transformation of the object based on the received viewing direction with respect to the position at which the view textures were calculated and expressing the object transformation as a first matrix.

9. The method of claim 8, wherein for each part:

said step (b)(i) comprises determining a transformation of each part with respect to the object at the received viewing direction and expressing the part transformation as a second matrix; and

said step (b)(ii) includes calculating a part viewing direction that is a function of the received viewing direction, the first matrix, and the second matrix.

10. The method of claim 9, wherein for each primitive of a respective joint:

said step (b)(iii) comprises determining the transformation of the primitive with respect to the object at the received viewing direction and expressing the primitive transformation as a third matrix; and

said step (b)(iv) further includes calculating a joint viewing direction that is a function of said received viewing direction, the first matrix and the third matrix.

11. A system for animating comprising:

a preprocessor having a proxy former and a view texture former; and

an animator coupled to said preprocessor having a transformation matrix calculator, a view direction calculator, and an image based renderer;

wherein said animator receives object proxies and view textures, from said preprocessor.

12. A method for animating comprising:

(1) preprocessing an object including the steps of

receiving an object proxy;

dividing said object proxy into parts based on motion characteristics of said object proxy;

forming sub-proxies of said parts based on said dividing step;

forming view textures for said sub-proxies; and

(2) rendering said object including the steps of

receiving said view textures and said sub-proxies;

selecting a viewing direction;

calculating the transformation of said sub-proxies based on said viewing direction;

calculating a new viewing direction based on said transformation; and

rendering said sub-proxy; whereby said object is animated by repeating said step (2).

13. A system for animating an object, comprising:

(a) means for preprocessing the object to be animated including forming proxy surfaces for parts of the object; and

(b) means for rendering the proxy surfaces including:

(i) means for determining a transformation of each part with respect to the object; and

(ii) means for rendering the proxy surfaces of each part at a new viewing direction based on the determined part transformation.

14. A system for animating an object, comprising:

(a) means for preprocessing the object to be animated including forming proxy surfaces for parts of the object and at least one joint of the object; and

(b) means for rendering the proxy surfaces for each part and joint including:

(i) means for determining a transformation of each part with respect to the object; and

(ii) means for rendering the proxy surfaces of each part at a viewing direction based on the determined part transformation,

(iii) means for determining a transformation of each primitive of a joint with respect to the object; and

(iv) means for rendering each joint primitive at a viewing direction based on the determined joint primitive transformation.